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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,993	08/20/2003	Takeshi Yamakawa	241531US3	5146

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EXAMINER

CHEN, HUO LONG

ART UNIT	PAPER NUMBER
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2625

NOTIFICATION DATE	DELIVERY MODE
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02/19/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/643,993

Applicant(s)

YAMAKAWA ET AL.

Examiner

HUO LONG CHEN

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/26/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1 and 3-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments filed on November 26, 2008 have been fully considered but are moot in view of the new ground(s) of rejection.

With respect to claim 1, applicant argues that Anzai fails to teach that the fixing member separates from the optical housing and they are connected through ultraviolet cure adhesive. This argument is moot in view of newly found prior art by Andoh et al. (US 6,795,257), herein referred as Andoh'257. Andoh'257 teaches an intermediate holding member to fix the housing and a lens together with adhesive (abstract).

In addition, applicant argues that Itabashi's teaching about reducing the heat transmitted from a heat generator is different than insulating components, such as a lens from heat. Examiner disagrees with applicant's argument. Itabashi points out a theory about how to avoid transmitting heat from one element to another element. Itabashi points that when a heat conductivity of the housing is smaller than the heat conductivity of a holding member holding the polygon scanner which is a heat source, the heat from the heat polygon scanner will not be easily transmitted to the housing. As a result, a person having ordinary skill in the art will know that a holding member (the intermediate holding member) which fixes a heat source and an element together. The holding member (the intermediate holding member) needs to have lower heat conductivity than the heat source in order to avoid the heat from the heat source being transmitted to the element. Also, it is known that the optical housing is the heat source comparing to the lens. Therefore, since the holding member (the intermediate holding

member) stops the heat being transmitted, the holding member (the intermediate holding member) is the insulating component.

Furthermore, applicant argues that Lam does not disclose fixing member, and the housing is arranged and structured such that an ultraviolet light source can irradiate the ultraviolet rays to the ultraviolet cure adhesive through the condensing lens and through the fixing member at the same time. This argument is moot in view of newly found prior art by Andoh et al. (US 6,795,257), herein referred as Andoh'257. Andoh'257 teaches that the holding member is made of an ultraviolet transparent material in order to allow the ultraviolet to pass through the transparent material to irradiate the adhesive material. Andoh'257 also teaches that intermediate holding member to fix the housing and a lens together with adhesive (abstract). As result, when having a ultraviolet rays to cover the whole holding member (Fig.2B, item 5), the ultraviolet light source can irradiate the ultraviolet rays to the ultraviolet cure adhesive through the condensing lens and through the fixing member at the same time.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to combine the inventions of Andoh'257 and Itabashi because using an intermediate holding member which is made of an ultraviolet transparent material in cylindrical shape and having lower heat conductivity lower than the housing fix the housing and lens with adhesive will avoid the heat being transmitted from the housing to the lens and the housing and a lens together with adhesive at the same time.

2. With respect to the applicant's arguments about claims 3-9, 11 and 12, this argument is moot in view of newly found prior art as disclosed in claim 1 above.

Response to Amendment

3. The amendment to the claim received on November 26, 2008 has been entered.
4. The amendments of claim 1 and the specification are acknowledged.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation “the condensing lens, the fixing member and the housing are fixed at a same by irradiating ultraviolet rays in such a way the ultraviolet rays transmit through **the condensing lens, the ultraviolet cure adhesive and the fixing member, the condensing lens, the fixing member** and housing being arranged and structured such that an ultraviolet light source can irradiate the ultraviolet rays to the ultraviolet cure adhesive through the condensing lens and through the fixing member at the same time. (lines 21-26)” It is not clear if the claim 1 tries to claim two condensing lens and two fixing members in an image forming apparatus. In fact, according to the claim1, there are only one fixing member and one condensing lens. For prior art considerations, examiner treats claim 1 as **“the condensing lens, the fixing member and the housing are fixed at a same by irradiating ultraviolet rays in such a way the ultraviolet rays transmit through the condensing lens, the ultraviolet cure adhesive and the fixing member. The condensing lens, the fixing member**

and housing being arranged and structured such that an ultraviolet light source can irradiate the ultraviolet rays to the ultraviolet cure adhesive through the condensing lens and through the fixing member at the same time.”

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andoh et al. (US 6,795,257), herein referred as Andoh'257 and further in view of Tomohiro (JP 04-265919), herein referred as Tomohiro'919, Itabashi (US 6,700,687), herein referred as Itabashi'687.

With respect to **claim 1**, Andoh'257 teaches that an image formation apparatus [a copy machine (Fig.2)], in which a light emitted from a light source is deflected towards a condensing lens, the condensing lens condenses the light and focuses the light on an image carrier, comprising:

an optical housing [regarding to the housing (Fig.1, item 2)] that houses the condensing lens [As shown in Fig.1, the lens 3 is fixed to the house 2 with the holding member 5];

a fixing member (Fig.1, item 5) that is fixed to the optical housing [As shown in Fig.1, the holding member 5 is fixed to the house 2.];

the condensing lens is fixed to the fixing member [As shown in Fig.1, the lens 3 is fixed to the holding member 5];

the fixing member [regarding to the item 5 in Fig.1] has an area that is smaller than an area of the condensing lens from a top plan view [As shown in Fig.1, the holding member 5 have smaller area than the lens3 from the top plan view] and is arranged to transmit ultraviolet ray there through, the fixing member is configure to be fixed to the condenser lens at the area in such a manner that the fixing member does not directly contact the condensing lens [the lens is fixed to the holding member with adhesive material (col.7, lines 8-10). As a result, the lens and the holding member do not directly contact.]

ultraviolet cure adhesive is applied between surfaces of the condensing lens and the fixing member such that the condensing lens is fixed to the fixing member via the ultraviolet cure adhesive [the lens is fixed to the holding member with adhesive material (col.7, lines 8-10)].

In addition, Andoh'257 teaches that the holding member is made of an ultraviolet transparent material in order to allow the ultraviolet to pass through the transparent material to irradiate the adhesive material. Andoh'257 also teaches that intermediate holding member to fix the housing and a lens together with adhesive (abstract). As result, when having a ultraviolet rays to cover the whole holding member (Fig.2B, item 5), the ultraviolet light source can irradiate the ultraviolet rays to the ultraviolet cure adhesive through the lens and through the holding member at the same time.

However, Andoh'257 fails to teach that the fixing member is a single fixing member of the condensing lens, which is arranged at a position in a center of the lens. The fixing member has a coefficient of thermal conductivity lower than that of the optical housing, and is separate member from the housing.

Tomohiro'919 teaches that the positioned lens is fixed by adhesion to housing at one point of the center part of the plane part of the lens (constitution).

Itabashi'687 points out a theory about how to avoid transmitting heat from one element to another. Itabashi'687 points out that when a heat conductivity of the housing is smaller than the heat conductivity of a holding member holding the polygon scanner which is a heat source, the heat from the heat polygon scanner will not be easily transmitted to the housing. As a result, a person having ordinary skill in the art will know that a holding member (the intermediate holding member) which fixes a heat source and an element together. The holding member (the intermediate holding member) needs to have lower heat conductivity than the heat source in order to avoid the heat from the heat source being transmitted to the element. Also, it is known that the optical housing is the heat source comparing to the lens. Therefore, since the holding member (the intermediate holding member) stops the heat being transmitted, the holding member (the intermediate holding member) is the insulating component.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to combine the inventions of Andoh'257 and Tomohiro'919, Itabashi'687 because using an intermediate holding member which is made of an ultraviolet transparent material in cylindrical shape and having lower heat conductivity

lower than the housing fixing the housing and lens with adhesive will avoid the heat being transmitted from the housing to the lens and the housing and a lens together with adhesive at the same time.

With respect to **claim 5**, which further limits claim 1, it is analyzed and rejected for the same reason set forth in the rejection of claim 1.

However, Andoh'257 fails to teach that the fixing member is formed by molding glass and has an ultraviolet ray transmittance equal to or more than 50 percent.

Claim 5 is merely about the material for a fixing member to have a good ray transmittance in order to transmit the UV light to activate the UV cure adhesive. Examiner does not see how critical of the ultraviolet transmittance is equal to or more than 50 percent to affect that the usage and property of the fixing member to glass is capable of transmitting the UV light to activate the UV cure adhesive. Examiner takes official notice that it is well known that glass is capable of transmitting the UV light to activate the UV cure adhesive.

Andoh'257 also teaches that intermediate holding member to fix the housing and a lens together with adhesive (abstract).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to combine the inventions of Andoh'257, Tomohiro'919, and Itabashi'687 because doing so would allow transmitting the UV light to activate the UV cure adhesive in order to fix the support column with the optical housing when the support column is made of glass which is capable of transmitting the UV light.

With respect to **claim 6**, which further limits claim 1, it is analyzed and rejected for the same reason set forth in the rejection of claim 5. In addition, plastic is also well known to transmit the UV light to activate the UV cure adhesive.

With respect to **claim 7**, which further limits claim 5, it is analyzed and rejected for the same reason set forth in the rejection of claim 1.

With respect to **claim 8**, which further limits claim 6, it is analyzed and rejected for the same reason set forth in the rejection of claim 1.

10. Claims 3, 4, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andoh et al. (US 6,795,257), herein referred as Andoh'257, Tomohiro (JP 04-265919), herein referred as Tomohiro'919, and Itabashi (US 6,700,687), herein referred as Itabashi'687 as applied to claims 1 and 5-8 above, and further in view of Tachibe et al. (US 6,449,107), herein referred as Tachibe'107.

With respect to **claim 3**, which further limits claim 1, the combination of Andoh'257, Tomohiro'919 and Itabashi'687 fails to teach that the condensing lens and the fixing member include positioning units, wherein the positioning units of the condensing lens and the fixing member engaged with each other to thereby fix the condensing lens to the fixing member.

Tachibe'107 discloses a method to contact a substrate and a casing by using a positioning member (Fig. 2, elements 2, 13 and 12, col.7, 43-45).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to combine the inventions of Andoh'257, Tomohiro'919, Itabashi'687,

and Tachibe'107 because doing so would allow fixing a support column and a lens to be easier and simpler.

With respect to **claim 4**, which further limits claim 1, it is analyzed and rejected for the same reason set forth in the rejection of claim 3. Since the support column is capable of fixing the lens with positioning unit, it is capable of fixing the optical housing with positioning unit as well.

With respect to **claim 11**, which further limits claim 1, the combination of Andoh'257, Tomohiro'919 and Itabashi'687 fails to teach the image formation apparatus according to claim 1, the fixing member and the optical housing include holes so that the fixing member and the optical housing are fixed using screws.

Tachibe'107 discloses a method to fix two casings by using screws and both casings have holes to enable them to be fixed together with screws (Fig. 17-19, and col. 10, lines 17-39)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to combine the inventions of Andoh'257, Tomohiro'919, Itabashi'687, and Tachibe'107 because doing so would allow fixing a support column and a lens to be easier and simpler.

With respect to **claim 12**, which further limits claim 1, the combination of Andoh'257, Tomohiro'919 and Itabashi'687 fails to teach that the fixing member includes a snap fastener made of plastic, the optical housing includes holes to engage the snap fastener.

Tachibe'107 discloses a method to fix two casings with a so-called snap fit mode and one of the casings have holes to enable the usage of the snap fit mode (Fig, 15, col. 10, lines 1-4). It is well known that snap fastener can be made of plastic.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to combine the inventions of Andoh'257, Tomohiro'919, Itabashi'687, and Tachibe'107 because doing so would allow fixing a support column and a lens to be easier and simpler.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andoh et al. (US 6,795,257), herein referred as Andoh'257, Tomohiro (JP 04-265919), herein referred as Tomohiro'919, and Itabashi (US 6,700,687), herein referred as Itabashi'687 as applied to claims 1 and 5-8 above, and further in view of Takayuki (JP 08-094956), herein referred as Takayuki'956.

With respect to **claim 9**, which further limits claim 1, the combination of Andoh'257, Tomohiro'919 and Itabashi'687 fails to teach that a length of the fixing member is equal to or longer than one third of a length of the condensing lens, and the condensing lens is fixed to the fixing member such that the length of the fixing member is parallel to the length of the condensing lens.

Takayuki'956 teaches a lens receiver which is interpreted as a fixing member and the lens receiver holds the lens (constitution). The length of the lens receiver is parallel to the length of the lens (Fig. 2). Comparing with the length of the lens (Fig.2 item 2)

and the lens receiver (Fig.2 item 5), the length of the lens mount is longer than the length of the lens.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to combine the inventions of Andoh'257, Tomohiro'919, Itabashi'687, and Takayuki'956 because doing so would allow the lens to be held steadier by the lens receiver.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUO LONG CHEN whose telephone number is

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(571)270-3759. The examiner can normally be reached on 8:00am to 5:00pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark K. Zimmerman can be reached on (571)272-7653. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Huo Long Chen/
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